UBC Centre for Human Settlements

EMERGENCY PREPAREDNESS PLANNING

A Planner's Handbook for Emergency Preparedness

Laurie Laughy

July 1990

Produced with the Financial Assistance of Emergency Preparedness Canada

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1. Introduction

Emergency planners plan for events they hope will never happen. Consequently, their job is difficult and often complicated by a lack of community awareness and support. This difficulty increases as technology becomes more sophisticated and populations become more urbanized. There can be no question, however, that the better a community is prepared, the faster it will recover from a disaster.

This handbook is a guide for emergency planners. It advocates an approach which incorporates community participation from the beginning to make the planner's job easier, more interesting and, most important, more effective.

Although the handbook is written with a medium sized community in mind, it is designed so one person can assume more than one role or function in a small community. Responsibilities can be further decentralized when planning in large municipalities.

The handbook is not intended to serve as a blueprint for writing a community emergency response plan, but rather to provide guidelines for a planning process that consists of working *with* a community rather than *for* a community. It is meant to be a guide and source of ideas for establishing an emergency planning program at the community level, not a formula to be adopted and rigidly followed.

The foundation of the emergency planning program is the formation of an emergency planning committee composed of representatives from a wide variety of community-based agencies and organizations. The emergency planner is both a catalyst and coordinator who works with the emergency planning committee and its various sub-committees to ensure that a community is prepared.

This handbook briefly discusses the definition of disaster or emergency. The goals of emergency preparedness and the role of the emergency planner in the community planning process are described. However, the majority of the handbook is dedicated to describing the emergency planning committee, the sub-committees and their function and responsibilities.

2. What is a Disaster?

There is little uniformity in the definition of "disaster". Adriaan Korver (1986) found over forty different definitions accepted by international governments and agencies. For example, in the Netherlands,

> *a disaster is a situation when the general safety is seriously imperiled, whereby life and the physical condition of a large number of persons or great material interests are dangered and whereby a coordinated relief program of services and organizations of various disciplines is required* (National Red Cross Society Headquarters cited in Korver 1986).

The American Red Cross defines a disaster as a situation such as a flood or earthquake "*which causes human suffering and creates needs which the victims cannot solve without help*" (Korver, 1986: 152). The World Health Organization differentiates between disasters and severe disasters which are classified as catastrophes.

In Canada, the Emergencies Act passed in 1988 repealed the War Measures Act and defines four types of national emergencies:

> ***Public Welfare Emergency*** is one that is caused by a real or imminent
>
> (a) fire, flood, drought, storm, earthquake or other natural phenomenon;
> (b) disease in human beings, animals or plants;
> (c) accident of pollution; or
> (d) breakdown in the flow of essential goods, services or resources and that results in a danger to life or property, or social disruption.
>
> ***Public Order Emergency*** is one that arises from threats to the security of Canada.

> ***International Emergency*** is one involving Canada and one or more countries and arises from acts of intimidation or coercion directly threatening the sovereignty of Canada or its allies.
>
> ***War Emergency*** means war or other armed conflict involving Canada or any of its allies. (*Emergencies Act*, SC Chapter 89, 1988)

No matter which definition is used, several points are clear. Disasters can take many forms, they occur as a result of one or more of a wide range of events, and they have one or more of the following impacts: social, economic, environmental, or political. Since, by their very nature, these impacts are negative, the role of emergency preparedness is to prepare a community so that damage is prevented or its impact lessened.

3. Goals of Emergency Preparedness

> *The state of disaster preparedness is a measure of the willingness and capability of the people to take various steps needed to safeguard lives and property during any warning period which may be granted, as well as in the post disaster phase.* (United Nations, 1984, p.1)

It is important to keep in mind the reasons why a planner is in the business of emergency preparedness. The goals can be summarized as follows:

Preserve life

Reduce suffering

Evaluate the incident and the response

Protect property

Anticipate and mitigate

Recovery and renewal

Exercise and Educate

The first need is to save as many lives as possible and to reduce the suffering of the injured. Once this has been done, the extent of damage must be assessed, and both damaged and undamaged property protected.

As soon as the immediate needs of people and property have been met emergency responders need to anticipate and mitigate possible further damage. The next step is to attempt to stabilize, and begin the recovery phase. Only after the situation has been stabilized can communities can start looking to the future and plan for reconstruction and renewal.

With these goals in mind, the emergency planner can evaluate potential responses to disasters and formulate a suitable local community plan so that responders and the community at large can be educated and trained, and the plan tested through simulation exercises.

4. The Role of the Emergency Planner

The goals in the previous section focus on responding to a disaster. However, today's emergency planners must not only plan for immediate response to a specific disaster, but must also anticipate potential disasters and plan for the removal or reduction of the associated risks. In order to be prepared, the emergency planner must prepare a set of plans and ensure that the community understands and can assist in their execution.

> *Preparedness is not limited only to the short-term measures which are taken during a warning period before the impact of a disaster event: it must be supported by legislation and be concerned with operational planning; education and training of the population at large, and the technical training of those who will be required to help in a relief operation; and emergency funding arrangements. The more effectively these tasks are carried out in advance, the more readily will it be possible to take also the action necessary during the emergency phase itself and in the later phases of relief, rehabilitation and reconstruction* (United Nations, 1984, p.1).

The emergency planner must plan for a wide variety of possible disasters or emergencies, many of which can be anticipated and the worst consequences avoided through careful community planning.

4.1 The Mandate: Legislation and Bylaws

Every province in Canada has different legislation related to emergency preparedness, however, the basic principles are the same. The emergency planner is appointed by the Mayor or Municipal Council. Many Canadian municipalities have adopted a bylaw or resolution which, under Provincial legislation, gives them the authority to prepare emergency plans.

The first task of an emergency planner is to review the local emergency planning legislation. The planner should also clarify terms of appointments and the operational responsibilities expected by the community.

4.2 How to Get Started

Preparing a community for disaster is too big a job for one person. Involving the community is an essential part of an effective planning process. Involving community members from the start is the best way to ensure that plans make sense, and that the community knows how to respond to emergencies and how to reduce the impacts of a disaster.

The best way to involve the community is to form an Emergency Planning Committee to oversee and assist in the development of an Emergency Preparedness Plan. The first step therefore, is to obtain the sanction of the municipal council to establish, and appoint members to, this Committee.

The remainder of this handbook describes an Emergency Planning Committee and each of the sub-committees that can be formed to create a comprehensive community-wide initiative for disaster preparedness. Each committee is composed of representatives from different sectors of the community, based on the premise that wide-spread community participation is essential for successful emergency preparedness.

5. The Emergency Planning Committee

5.1 Responsibilities

The responsibility of the planning committee is to co-ordinate, monitor, evaluate and assist in the development of an Emergency Preparedness Plan for their community.

In order to accomplish this objective, the planning committee requires at least five sub-committees. Ideally, each sub-committee will be made up of different people, but in a small community members may have to be part of more than one committee and share tasks. The five sub-committees should cover the following functions: hazard and risk analysis; mitigation; emergency response plan; exercise design and evaluation; and, education and training.

5.2 Membership

Members of the planning committee should be drawn from community-based agencies and organizations.

a. The committee should include at least one member from the first-response agencies (police, fire, ambulance). It is important, however, to avoid a duplication of the Emergency Operations Centre personnel (designated representatives of agencies that coordinate and oversee response to an emergency or disaster).

b. The planning committee should include a member of the local municipal council. Municipal council members are recognized community leaders and can help create awareness of the importance of emergency preparedness. This in turn leads to support in terms of funding and commitment.

c. To oversee education and training at the community level the committee could include a member from the academic community who is interested

in adult education. This member might also be able to attract funding and researchers in the area of disaster research.

d. Private industry should be represented. Industrial associations representing industries that have the potential to add to community risks, or the Chamber of Commerce or Board of Trade, could be asked to nominate a representative. Regular reporting back by the delegate from this group to the business community will have the added benefit of increasing community awareness.

e. Community involvement should be solicited. Selection should be based on interest, previous community involvement, and respect of other community members. Individuals involved in the local branch of national organizations such as the Red Cross, Salvation Army and church or service groups make logical recruitment sources.

f. A member of the municipal planning department should be invited to participate in the committee. This person should have a long association with the community, be knowledgeable regarding land use planning, and be aware of the long term planning goals of the municipality.

g. The municipal manager or a representative from the municipal clerk's office would also be a useful addition to the committee since such a person is aware of current issues before municipal council, and the municipal budgetary process.

h. A representative from the media, perhaps the city editor of a local newspaper, may also be useful as they usually have a wide-ranging network of community contacts and can be helpful in gaining community support.

5.3 Planning Requirements

Planning for disasters is a complex task and there are a number of areas which should be addressed at the planning committee level. The emergency planner should try to ensure that the members of the planning committee have a thorough understanding and awareness of the following topics.

The Existing Legislation and Regulations Governing Emergency Planning. Committee members should be aware of the legislation which

empowers them to plan for disasters and also know the roles and responsibilities of each of the three levels of government.

When adjoining municipalities have emergency plans they too should be examined for information. For example, if an adjoining municipality is planning a hazardous waste site, it will have implications for its neighbours. The committee may also find that exclusive access to the same resources and personnel may have been assumed by a number of municipalities. It is also important for the Planning Committee to be aware of any emergency plans which might exist at the federal or provincial level.

The Roles and Responsibilities of Each of the Five Sub-Committees. It is important that each sub-committee keeps on track and completes its assigned task. This might be accomplished by working to a mandate or terms of reference provided by the Planning Committee. It is also critical that the sub-committees share information and work together towards the development of an over-all plan.

The Existing Resources in the Community. Although it is not important for Planning Committee members to be aware of specific types and numbers of resources available to the community, they should have an overall awareness of current and future resources available to them. Areas that the emergency planner may wish to include are: municipal departments and programs; computer systems; staffing levels; media; community organizations; research institutions and existing studies or plans. It is important for members to know where to go should they, or sub-committee members, need to obtain additional information (for example municipal lawyer, city engineer).

Various Work Plan Analysis Techniques. Although each sub-committee can function independently, in many cases the product of one sub-committee is dependent upon the results of another, for example the emergency response committee needs to know what types of hazards they should be planning for. If the planning committee is aware of work plan techniques they can ensure that each sub-committee is working on the appropriate task at the right time.

The Budget Available for Emergency Planning and Sources of Additional Funds. Although many of the committee and sub-committee members have a job description which includes planning for disasters, consideration should be given to covering costs for volunteers, for example meals and transportation. Providing education and training also means additional expenditures on trainers and facilities. Communications equipment, emergency operations centres and conducting emergency exercises will also add to emergency planning costs.

The Official Community Plan. It is important for planning committee members to be aware of how the community is planning for its future. New subdivisions, development permits for increased industrial zoning, higher density multiple-family housing and park space are all subjects which will have an impact on emergency planning in the community.

The Political Climate. It is important for members of the planning committee to be aware of and sensitive to governmental priorities. They should also provide leadership in helping shape the priorities of each level of government.

A disaster, whether it occurs locally or overseas, is also an opportunity. By taking advantage of media coverage and heightened public awareness, committee members can use the situation to pressure politicians for additional resources, and to ensure that emergency preparedness is a municipal priority.

6. The Hazard Assessment and Risk Analysis Sub-Committee

6.1 Responsibilities

This sub-committee is responsible for identifying and assessing all possible hazards that may cause an emergency or disaster in the community.

An important part of emergency preparedness is knowing potential risks. By completing a hazards and risk analysis at the start of the planning process it may be possible to eliminate or mitigate the consequences of existing hazards, thus avoiding the need to develop an emergency response plan to address them. A hazard is considered to be anything which either threatens the residents or the things that they value. The risks are the probabilities of an activity or activities leading to a consequence which has a negative impact on the community.

Most disaster plans include some sort of hazard description. The simplest form is a list of the hazards that local experience and local experts suggest may occur. This method can be faulty since hazards such as tornados might be omitted from a plan simply because no one can remember one occurring. Hazard descriptions range from a simple list of hazards, to a comprehensive hazard and risk analysis.

6.2 Membership

Members of the hazards and risk analysis sub-committee should include people who have technical and research expertise, and who can help other members interpret the results and assist in the actual analysis. A quick review of known possible hazards, such as transportation routes for dangerous goods, chemical production plants, and weather conditions, could suggest participation of a member of the transportation industry, a chemical industry representative and a meteorologist. Students from universities or local colleges, who are specializing in applicable fields could also serve as valuable sub-committee members.

Possible hazard and risk assessment sub-committee members could include a:

- o geographer;
- o community planner;
- o public health official;
- o engineer;
- o environmentalist;
- o chemist;
- o meteorologist;
- o military representative;
- o citizen;
- o member of a chemical industries association; and
- o firefighter.

6.3 Planning Requirements

6.3.1 Internal Hazards

The first step is to examine the potential hazards in the municipality. Most hazards fall into three categories: natural hazards (for example, earthquakes, forest fires, windstorms); human-caused hazards (such as aircraft crashes, toxic chemical spills, oil spills); and social hazards (for example, riots, war, disease). The search for and inclusion of specific hazards is generally dictated by budget, information and time available.

6.3.2 External Hazards

The next step is to examine hazards existing in surrounding communities. When developing a hazard and risk analysis for a specific facility such as an airport, it is critical to also consider hazards for which the surrounding municipality is preparing. If, for example, the emergency planner for the airport is only planning for aircraft crashes and bomb threats and not for a potential earthquake or flood, obviously planning will be incomplete. This step can be more difficult and time-consuming because surrounding municipalities may not have taken this planning step, and information may not be readily available.

Even if the subject community is untouched by the potential hazards of a neighbouring community, it may have an important role in serving as a resource

both during the rescue phase and as a receiving community, accepting injured and homeless residents.

6.3.3 Risk Analysis

As soon as potential hazards have been identified, sub-committee members should examine the probability of risk. This step can be a simple process or a considerably more complex one. For example, if a historical perspective makes it clear that the community encounters a major flood every ten years, it would be reasonable to conclude that the risk of flooding in the next ten years is very high. However, steps may have already been taken to lessen the chances of another flood; a dam or dikes may have been built to better control flooding. Are these steps adequate or have circumstances and the environment changed since they were erected? Perhaps upstream logging and subsequent soil erosion have increased the community's risk of flooding. If so, what are the implications for the community? These are the types of questions that must be asked.

6.3.4 Impact Assessment

Understanding the potential hazards and associated risks in a community is important. However, to determine priorities in addressing these hazards it is also necessary to consider the possible impact of each hazard.

There are four main types of impacts:

- social,
- environmental,
- economic, and
- political.

Social impacts are factors such as the numbers of deaths and injuries resulting from a particular hazard. Other social impacts to be considered are the loss of existing housing, disruption of education, and the loss of critical facilities and irreplaceable materials such as art collections, libraries, etc. Environmental impacts include the effects of a hazard on the quality of air and the quality of water. The effect on existing wildlife and vegetation also warrant consideration. The extent of structural and non-structural damage, loss of infrastructure, loss of transportation centres, and loss of jobs comprise economic impacts. Political

impact is reflected by public perception of blame, or the degree to which politicians are held responsible for the occurrence and response to the emergency.

Obviously, if a disaster has a wide-spread impact, it is of greater significance to the community. Planning for a potentially high risk and devastating disaster then becomes a priority over an equally high risk disaster, but with a smaller impact.

Risk analysis is a continuing process as the community changes and as technology is developed to assist in the analysis. However, one risk which tends to be ignored is that of belonging to an ethnic minority.

6.3.5. Ethnic Considerations

The consequences of a disaster on ethnic and cultural minorities are often far more severe than on the rest of the population. Research has found that "belonging to an ethnic minority is a risk because disaster related deaths are historically higher among ethnic minorities." (Perry and Greene, 1982, 307) Residential areas with high concentrations of ethnic minorities often experience the greatest damage due to the age, condition, and type of housing. (Bolin and Bolton, 1986, 207)

Many recent immigrants have difficulty understanding the commonly spoken language of the community and have trouble understanding orders to evacuate or to follow emergency procedures. In addition, they often do not understand or assimilate hazards information and emergency preparedness material.

Ethnic minorities are also often unaware of programs for financial and emotional assistance following a disaster. The inability of minorities to get aid means that there is a longer period to economic recovery and that may mean a long-term decline in the quality of life. Those persons with the highest damage report high loss levels, and they receive the most financial aid, but, those with the littlest to lose and, thus, the lowest financial losses are often the most in need.

Given the added risks that are associated with belonging to an ethnic or cultural minority, it is crucial that emergency planners work with existing ethnic organizations in the community.

7. The Mitigation Sub-Committee

7.1 Responsibilities

This sub-committee is responsible for examining the hazards and associated risks identified by the hazards sub-committee. Members must review these findings to determine the best strategies for a response to identified risks. Both community and political awareness and understanding are essential in establishing an effective strategy. The emergency response sub-committee should then devise a plan for dealing with the potential impacts, based on these recommendations. However, once the risk and impact analysis is complete, it is important not to rush out and begin the develop an emergency response plan to cope with the hazard. It may be possible to eliminate the hazard and thus negate the need to plan for an emergency response to deal with this particular situation.

7.2 Membership

Sub-committee members could be a:

- o local politician;
- o citizen member of an active social organization;
- o community planner;
- o representative from the Law Society;
- o researcher;
- o environmentalist;
- o media;
- o representative from the Chamber of Commerce;
- o representative from the Insurance Agents Association;
- o community development worker; and
- o member of a first response agency.

This sub-committee will examine the impact of potential hazards on existing and future development and populations. It should address how social, environmental, political and economic impacts can be reduced, and in doing so can consider at least four possible strategies:

- o eliminate the hazards;
- o reduce the risk;
- o reduce the consequences; and
- o spread the risk.

7.3 Planning Requirements

7.3.1 Eliminate the Hazard

Emergency planners often add sections to an existing emergency response plan to enable first responders to deal with a particular threat. A better course of action, depending upon the risk and potential impact, would be to eliminate the hazard. Obviously, some hazards such as earthquakes and tornados can not be eliminated. However, hazards such as toxic waste depots can be relocated, and transportation of dangerous goods can be re-routed. It may be far more practical and cost efficient to eliminate the hazard rather than plan to deal with its impact.

It is important to look at both existing hazards and the community's potential for attracting or incurring further hazards. The sub-committee should be very active and aware in exploring the potential risk to the community of proposed hazardous activities or sites. The cost to the community for planning and adequately responding should be reviewed and publicized. The decision-making process on whether or not to accept the risk should include public participation.

7.3.2 Reduce the Risk

Eliminating a hazard may be impossible, but it may be possible to reduce the risk of a disaster occurring. It is usually impossible to move an airport or change incoming flight paths, but it is possible to be aware of existing standards and the steps being taken to reduce the risk of aircraft crashes. Where standards are not being followed or are inadequate, the sub-committee should ensure that the community is aware of this situation and should lobby for political support.

In many cases it is only after a disaster in another community or country that people become concerned about their own community. The important concept for committee members to keep in mind is that of *anticipation*: anticipate the risk, examine the standards for risk reduction, and determine the adequacy of standards and enforcement of those standards.

7.3.3 Reduce the Consequences

If the hazard cannot be eliminated, and risks have been reduced to acceptable levels, there are two steps that can be taken in order to reduce the consequences: mitigate the impact, and prepare a response.

For example, if it is impossible to re-route dangerous goods transportation, it may be possible to move critical facilities adjacent to the route. Similarly, application of development permits should be reviewed. While it may be in a community's best interest to allow construction of a chemical plant, when approving the permit, the community should be confident that if there is a chemical leak, critical environmental areas will not be affected. Likewise, if the community is in a tornado area they may wish to consider banning trailer parks due to the severity of impacts on such sites.

7.3.4 Spread the Risk

"Spreading the risk" is an expression usually associated with insurance. It may be time for the community and insurance companies to look at costs and benefits of retro-fitting buildings for earthquakes, flood proofing homes, and so forth, and the effect this would have on insurance premiums and a community's financial obligations after a disaster.

Another approach is to increase participation in the planning process. After a disaster, especially if it is a human-caused one, there is a tendency to ask "whose fault is it?" Allocating blame becomes difficult when many factors are involved, and the community must assume responsibility for dealing with the consequences.

In order to *mobilize* community response, awareness and education, which is a critical part of the process, the mitigation sub-committee can hold public forums when some of the community hazards are identified. This area more than any other moves emergency planning into the political arena. It pushes emergency planners into what, for many, may be an uncomfortable situation. But for disaster management to be taken seriously, both as a profession and a responsibility, emergency planners must take a more proactive approach.

8. The Emergency Response Plan Sub-Committee

8.1 Responsibilities

An emergency plan must consider the short- and long-term measures necessary to enable a community to deal with all phases of an emergency, from the warning phase to reconstruction. The following are the six phases of a disaster which need to be addressed:

- o warning;
- o impact;
- o immediate post-impact;
- o rescue;
- o recovery;
- o reconstruction and renewal.

Depending upon the size of the community, the emergency response sub-committee may wish to allocate specific phases to internal sub-committees.

Each organization with a specific responsibility in the response phase will also need their own plan (for example the police will need their plan, as will the fire department, and so forth). The role of the emergency response plan sub-committee is to co-ordinate each plan so that they neither duplicate efforts, nor leave out the provision of necessary services. This sub-committee also has a role in facilitating inter-agency communication, and is charged with the responsibility for ensuring that planning for each phase of the emergency response plan is coordinated with the following phase.

When disasters occur, the affected community and other communities which may face the same hazards can learn from the event. The emergency response committee should identify research participants in their plan, so that a research team will be prepared and able to collect data quickly when a disaster occurs.

8.2 Membership

Members of the emergency response sub-committee should include representatives such as:

- o police;
- o fire;
- o ambulance;
- o hospitals;
- o public works or city engineering;
- o emergency social services (food, clothing, financial services, shelter, registration and inquiry, personal counselling, volunteers);
- o city planning;
- o media;
- o transportation;
- o communications;
- o Provincial Emergency Program;
- o search and rescue;
- o researcher;
- o community resident; and
- o local government.

Other members might include the Coroner, representatives from the military and the Aviation Safety Board. These persons and agencies can be contacted, where appropriate, either by the agencies involved in their own sub-plan (such as police), or during the planning for specific phases (for example, Environment Canada could be brought in when planning for the "warning" phase).

8.3 Planning Requirements

8.3.1 Warning

The warning phase bridges the gap between uncertainty and reality. There may be the opportunity for a long warning period prior to the potential impact, for example a drought. In other cases such as an impending tornado, the warning phase may be short but sufficient to adequately protect the community. In other situations, such as an earthquake, there may be no warning period or a completely inadequate one.

Communicating the warning is a logistics problem. Committee members must carefully examine existing communications systems, how access can be obtained, and who can and cannot be reached by them. Issues such as loss of electrical power, loss of telephone lines, and inter-agency communication links need to be considered. Once the logistics of communications have been established, the sub-committee must consider:

Who needs to know?
Why do they need to know?
What do they need to know?
How will they find out?

These are the key questions which must be answered in the warning phase of an emergency plan. Warnings need to go to several different sets of people, and for different reasons.

The First Line Responders. Emergency responders such as police, fire and ambulance must be informed of an impending disaster as soon as possible. A long lead time will increase the opportunity to contact all the necessary personnel identified by the plan. It will also enable the Emergency Operations Centre (EOC) to be set up and to prepare personnel for the impending situation.

The Community. The public must be notified so that they also can prepare themselves. Not only must the community be warned, it must also know what steps to take to protect life and property. At this stage of the planning process, the emergency response plan sub-committee will need to confer with the education and training sub-committee, for suitable advice to be given to the community. Community response to a warning can include instructions about going to basements, battening down windows, or if necessary evacuating the area.

The Front-Line Responders. Front-line responders may or may not be the same personnel as the emergency responders or first line responders, depending on the situation. For example, if the threat is a rising river, front-line responders could be involved in sand-bagging the banks. However, while municipal fire-fighters would be first line responders in a situation where a forest fire was threatening a community, the front-line responders may well consist of external forest-fighting crews.

The Politicians. Politicians must also be informed. Important decisions will have to be made, many of which will have political ramifications, and a prepared and informed politician will be able to act quickly.

8.3.2 Impact

Depending on the kind of disaster, there may be a long or short warning period. Similarly, the impact may last for a very short time (for example earthquakes or tremors) or an extended time (such as a drought). In either case, the major concern is to survive, and with the least amount of damage and loss.

The ability to survive is a combination of preparedness and individual capacity and capability. The role of the committee is to ensure that the community is well prepared when the impact occurs, which requires good communication with the education and training sub-committee.

8.3.3 Immediate Post-Impact

The immediate post-impact phase is usually very brief, and is a period of assessment and inventory, and for determining:

What happened?
Where did it occur?
Who was affected?
What was the extent of the impact?
What resources and personnel are necessary?
How are those resources and personnel obtained?

In cases where there has been no warning, the preceding questions are not answered for some time. It is during this time of assessment that the decision of whether or not to "implement the plan" is made.

The sub-committee can develop a plan or checklist of items that should be considered during the immediate post-impact phase.

a. The first concern is one of personal safety. First responders in the field also need to ask if others who are following behind or alongside them will be safe. For residents, the first concern will be the same. Next, people will turn to those around them. If at home they will check to make sure that family and then neighbours are safe. If at work, they will check on co-workers. If on the street, people will first check on those in the immediate area.

b. Awareness of areas at risk will assist in determining the areas of impact. Research has shown, for example, that trailer parks are hardest hit by tornadoes, therefore an immediate post-impact check-list of such sites, if in the path of a tornado, would be a useful tool.

c. The extent of injuries needs to be determined as soon as possible. There are many cases where the number of emergency responders greatly exceeded the casualties. For example, knowing that 90 percent of the time a crash involving an airplane carrying 150 passengers, landing on a non-inhabited area, will have an average of 23 injured and of these only five will be "priority one" patients (Jessen, 1985), is useful in assessing the number of ambulances needed at the scene.

d. Communications are extremely important. During the assessment process, as information emerges, it becomes critical to communicate this information. Command staff need to know when to implement the plan and to open an EOC. First responders must know when to attend the area of impact. The public and the media, must be advised to keep away from the area and not create a even greater problem. Existing communication networks must be identified, and if insufficient to meet the projected needs, they should be improved upon.

e. In order to ensure an efficient response, command and control must be established. As soon as the area or areas of impact become known, control of the site must be determined. The post-impact plan should allow for initial first responders to assume control until relieved by higher ranking officials or until the person in charge of the rescue phase arrives on the scene. Control must be established at the EOC and a communication link developed between the EOC and the Emergency Site Manager (ESM). This phase moves very quickly into the rescue phase.

8.3.4 Rescue: First Responders

This phase is the most familiar to first responders. Each first response agency must develop a plan that incorporates: a fan-out system, command and control, and a communications plan. The rescue plan should address:

Who is involved?
Who is in charge?
What are their responsibilities?

Sub-committee members should ensure that each agency's plan is coordinated with the others, and that all aim towards maximum efficiency by taking into account allocation and distribution of resources.

Fan-Out. Speed is of the essence. Most fan-out systems rely on the telephone system and experience shows that even if the telephone network is still functioning following impact, within twenty minutes it will be rendered unusable due to saturation. Line load control can be used to keep certain lines open, but the telephone system cannot be depended upon to be operational. Use of the media, motorcycle clubs, and agencies with independent radio systems such as taxi companies, should be considered as back-up systems.

In many cases the need for assistance becomes rapidly apparent to the public and thus in many disasters, first responders simply show up without being called. Arranging reporting places for first responders when they have not been specifically called may assist in preventing an over-response to the situation, and in the quick assessment of available personnel resources.

Command and Control. Control of the situation is important in order to prevent confusion, and ensure a prompt, efficient rescue. Control implies an ability to contain the situation, and responders need to be aware that two factors will make complete control impossible: mass assault and mass convergence. Mass assault is defined as the attempt of a group of persons to assist one another and solve the immediate problems; mass convergence occurs when people (for example the media and sightseers) commodities and equipment arrive at the site.

Survivors can render first-aid on the scene and save lives, but mass assault can result in poor distribution of resources. The rescue phase is too late to avoid these problems. Prior education and training of the community at large is the best means of helping survivors to provide efficient rescue and palliative measures until first responders arrive on scene. This is a most important area to be addressed by the education and training committee.

On the other hand, many of the problems of mass convergence can be addressed in the emergency response plan. Arrival of the media can be expected, sometimes sooner even than the first responders. Involving the media in the planning process, ensuring that a media communications centre is quickly set up, and a public relations officer is attached to the centre, will help to avoid some of the interference that the media can cause. It is critical that the media have quick access to as much accurate information as possible. Emergency response plans

should also provide for the arrival of the national and international media, which can quickly surpass the local media personnel in technology and numbers.

Relief assistance which is unnecessary and impractical may also arrive. These could be Search and Rescue teams (SAR), or publicly collected clothing and medical supplies. By anticipating these, the EOC can take steps to avoid the problems, by, for example, ensuring that cash rather than clothing is donated, and that links are set up with both External Affairs and Customs and Immigration to prevent the arrival of unnecessary helpers and speed up the arrival of vital equipment.

It is also important to control resources apart from those required at the immediate site. Rescuers need to be housed and fed. Some disasters require an extended rescue period, thus an emergency response plan must include a provision for reserving necessary resources such as hotel rooms, transportation (such as helicopters or buses), and communications (for example, pay phones or radio phones).

Establishing command will be easier than establishing control. The response plan should clearly denote which agency is in command, that is, who gives the orders at the site, and which agency is in command at the EOC. Command should be allocated to positions, not persons, and every position with a command function should have at least two back-up or deputy positions. Obviously, in a small community, this will be impractical and members may have to back-up each other. Members of the EOC should include:

- police;
- fire;
- emergency health services;
- public works or engineering;
- emergency social services;
- emergency emergency planner;
- provincial emergency planner; and
- any other person necessary to facilitate an effective response.

Communications. Communication is vital in establishing command and control. If orders cannot be communicated and facts cannot be made available, the best rescue plan in the world will not work. Not only must information be communicated to the outside world, but the personnel directly involved in the rescue attempt must be able to communicate both between and among all agencies and groups involved. For example, police, fire departments and public works,

must be able to exchange information with each other. Ambulance drivers need to inform hospitals of arriving patients. The Emergency Site Manager must be able to contact the EOC, and the EOC in turn must be able to reach the necessary political authorities (for example, the mayor) and specialized resources such as CANUTEC (the Information and Emergency Centre for Transportation of Dangerous Goods).

It is also important to build into the plan the ability to collect, validate and disseminate information regarding casualties. As people are rescued, the first questions are: how many deaths, how many injured and how many have survived? In a major disaster, various organizations and agencies such as hospitals, field hospitals, and temporary morgues will each be part of the answer. SAR volunteers may also have access to numbers of those rescued or believed to still be in buildings.

8.3.5 Rescue: Secondary Responders

Secondary responders are not usually involved in the actual physical rescue and treatment of the injured or in the control of the site. However, they are involved in providing for the uninjured or mobile survivors (such as Emergency Social Services), in the investigation of the incident (for example, Aviation Safety Board), research, and in providing for the needs of the rescuers or first responders (for example Critical Incident Stress Debriefing [CISD]). Many emergency response plans, while providing some degree of emergency social services, fail to address the other areas. The actual issues to be discussed are similar to those in the preceding section.

Fan-Out Systems. Secondary responders also need a fan-out system. Reaching members in emergency social services, for example, can be more of a problem than reaching police officers. Since there is no one agency providing this service, a fan-out system will need to reach numerous agencies.

Communications. Communication is also a major problem. Unlike the police and fire departments, most volunteer or social service organizations do not have an internal communications system (such as portable radios) and are therefore dependent upon other organizations, such as amateur radio operators, to provide internal and external communication. While first responders are concentrated in and around the disaster site, secondary responders are located in many different areas, thus adding to the communication requirements.

Command and Control. Although the problem of command and control is not the same as with primary responders, secondary response agencies must have clearly defined roles and responsibilities. Agencies will each have their own hierarchy or command structure. Unless the emergency plan is carefully constructed, this may make it difficult to be clear about who is responsible for the provision of which service. It is more difficult to define roles for emergency social services than for ambulance drivers or firefighters.

Specialist secondary responders such as researchers or inspections personnel often have difficulty in obtaining recognition of their status and their right to be in particular locations. First responders may question their presence, perceiving them to be unnecessary or unimportant, or simply interfering. For example, the need for CISD is still not universally accepted as a crucial service by first line responders.

An effective and integrated emergency response plan provides for both the immediate rescue of people and the transition from rescue to recovery for the helpers and the survivors.

8.3.6 Recovery

Emergency planning ends usually ends with rescue. Once the rescue is over, the plan often stops. However, emergency planners are starting to realize that unless recovery plans are made, the post-rescue phase can, in some cases, generate an even greater problem than the actual impact itself.
As soon as the rescue phase is over (or even during a prolonged rescue phase), the first priority is to determine how to restore essential services to the community. The long term recovery phase concerns plans for reconstruction and the future.

This is a new area for emergency planners and they can benefit from "business resumption plans" which are being developed to assist businesses such as banks or other financial institutions recover from a fire or other major crisis and quickly resume business (see for example, Coleman 1988).

As the community moves from a rescue phase to a recovery phase the issue of command and control becomes important. As the first and secondary responders wind down their operations, the existing EOC is no longer the best group to deal with changing community priorities. The response sub-committee needs to arrange for a Recovery Planning Team to gradually assume control of the recovery process and provide direction to the community.

Members for a recovery planning team might be a:

- representative of an EOC first response agency;
- member of the Association of Professional Engineers;
- staff member of the social planning department;
- local politician;
- representative of the local housing commission or Canada Mortgage and Housing Corporation;
- staff member of the community planning department;
- member of the local school board;
- representative from the Insurance Agents Association;
- media;
- member of the Chamber of Commerce;
- citizen from a local service group;
- representative from the building contractors association;
- staff member from the Public Health department;
- representative from the banking or financial services association;
- representative from the Law Society.

This planning team will be responsible for implementing the Community Recovery Plan.

Community Recovery Plan

In the short term, in order for a community to function and to provide essential services to its population, three main questions need to be addressed:

What is damaged?
What is essential?
How can it be maintained?

The first step therefore, is to conduct a casualty and damage assessment. This issue is two-fold: what information is needed, and who is going to do the assessment?

Casualty Assessment. As in the rescue phase, there is an immediate need to assess numbers of injured, dead and survivors. This information may need to be collected, sorted and validated over a long period of time. The recovery plan must include a means of data collection and information sharing between the various agencies, and the facts released through the EOC.

Resource Availability. The next question is the degree of subsistence available for the injured and uninjured. People must have food, water and clothing. Of the three, potable water is the most critical. Depending upon the degree of damage, provision of food is not usually a major problem in the short term. Disposal of waste and rotting or contaminated food may be more of a problem and should be included in the plan.

Depending upon the climate, clothing is also not usually a major concern in the short term. The Resumption Plan should provide a means of quickly determining the need for clothing, and then be prepared to issue bulletins requesting clothing only if required, as the arrival of unnecessary clothing can be more of a hindrance than a help.

Building Damage Assessment. The recovery plan needs to provide for building inspectors or engineers who can quickly verify whether or not critical facilities are safe. If the plan is able to target key locations, and assessors know ahead of time what areas they should tackle first, much time will be saved. They must also determine if there is adequate shelter to protect survivors from the environment. Awareness of the need to assess the condition of water reservoirs, large supermarkets, prisons, large housing projects and local reception centres is also important.

First and Secondary Responders. The requirements of the relief providers must also be addressed. For example, how are the first responders and secondary responders coping? It is important to ensure that once the rescue phase is over, personnel are not kept working around the clock and that they are given adequate rest breaks.

The status of existing medical services, and the ability of the community to provide medical assistance to the injured, and to meet the normal needs of a community (such as births, heart attacks and so forth) must be assessed. A recovery plan should provide for supportive mental health programs, including critical incident stress debriefing, for the rescuers as well as for the community at large. While engineers are needed to assess the structural damage to hospitals, additional personnel are required to check hospital equipment and to determine staffing levels.

Lifeline Systems. Of equal concern is the condition of existing lifeline engineering systems: electricity, water, sewerage, roads, bridges, railroads and airports. Assessment of which communication lifelines are operational (such as telephone, radio, television, and telecommunications) is essential. The recovery

plan should include means of contacting major utility companies and municipal public works departments for damage reports. Structural engineers will be required to check the safety of bridges and access ramps, and the recovery plan should provide for access to these professionals and a prearranged list of sites to be checked.

Community Services and Business Operations. An additional concern is the status of existing community services and systems, for example, is the educational system operational? Are major industrial and commercial employers able to continue operations? The recovery plan should provide a list of school personnel who can determine the safety of school buildings and the availability of teaching staff to operate the schools. Also, the Chamber of Commerce or other business organizations must be made aware of the need to be able to quickly determine what businesses are able to function.

Once the information is collected and the recovery planning team have a casualty and damage report, the next step is to determine essential services. Obviously the provision of potable water would be considered to be more important than the operational level of a department store. However, if the recovery plan has identified structures or services with the highest priority, then as the assessment reports are received, recovery planners can quickly arrange for the allocation of resources for repairs, either on a temporary or more permanent basis.

It is important for the recovery plan to include lists of materials and personnel which would be critical to the repair or return to service of identified priorities. Not only must the potential resources be identified, but also the means of accessing or transporting them, and the means of providing for payment where necessary. The recovery planning committee needs to carefully review the risks identified by the hazards and risk analysis committee and ensure that the necessary resources are identified in order to repair predictable damage.

Once the short-term recovery needs are met, the focus must turn towards developing a recovery planning process to bridge the gap between community stabilization and reconstruction or renewal.

Long-Term Recovery

A Long-Term Recovery Plan provides for the collection of all of the data available on the impact of the disaster, and then uses this information to determine the goals for recovery and eventual reconstruction. There is no smooth transition

from the short-term or Community Recovery Plan to the Long-Term Plan, but until the community has the time to develop its plans for reconstruction there must be a plan to assist it.

Demolition and Debris Removal. If the disaster has caused heavy property damage, home-owners will want to decide whether they should demolish their home or attempt to re-build. The plan should provide for communication between insurance agents, home-owners and public works, so that an informed decision can be made. The plan should also identify and communicate lists of legitimate contractors able to complete the necessary work, so that those already under stress are not pressured into using less reliable contractors who try to take advantage of the disaster.

If the decision is made to demolish, especially if the damaged areas include commercial or industrial zones, the debris will have to be taken to a landfill or dump site. Time will be saved if these areas are designated in the plan.

Allocation of Temporary Housing. When large residential areas are affected, residents will need temporary housing. Temporary housing is not the same as emergency or short-term housing. Depending upon the degree of damage, residents may have to live in temporary housing for many months. Thus, temporary housing needs may be met by the provision of trailers, pre-fabricated homes or quick construction of residential units. A recovery plan which has identified possible sites unlikely to be affected by existing hazards, will reduce confusion and assist in re-establishing some sense of order.

Relocation of Temporary Commercial and Industrial Areas. Large commercial or industrial areas may also have been destroyed. A recovery plan should examine areas which are at particular risk and, pending a reconstruction plan, should provide for the relocation of commercial businesses. Not only are stores necessary for the provision of food and supplies to the residential community, but putting people back to work is also a necessity to assist in economic recovery.

When identifying sites for commercial operations, consideration should be paid to their proximity to sites for temporary housing. Relocation of industrial sites is much more difficult because of infrastructure requirements and access to resources. Great care should be taken to consider community reconstruction plans before permitting industries to relocate.

Temporary Retro-fitting of Existing Damaged Buildings. Owners of damaged buildings may wish to make immediate repairs to their buildings to allow for occupancy. It is important to distinguish in the reconstruction plan the areas which may not be suitable for permanent retro-fitting. Areas which may be subject to further risk should be identified as such, in order to prevent owners from making expensive repairs, only to have new land-use plans make the repairs redundant.

Depending on the damage to residential facilities and the type of disaster, it may be useful to plan for temporary retro-fitting procedures and identify potential sources of the necessary equipment to complete the work.

Long-term Emotional Health Support Programs. Research has identified the need to provide on-going emotional support for survivors and for first and secondary responders. The recovery plan should address how this program will operate. There may well be the need for a specialized crisis line, support groups, specialized psychological services and outreach programs. The plan should determine who will provide these services and how they will be provided to the community.

Many persons feel that asking for emotional assistance is a sign of weakness. A program should be designed to address these concerns sensitively. Terms such as "mental health", "psychological services" and other medically oriented terms should be avoided.

Economic Recovery. Disasters usually have devastating effects on the economy. Insurance payments may be insufficient to allow for resumption of businesses and rebuilding of homes. Depending upon the degree of damage, many persons may find themselves without a job or means of financial support. Families may suddenly find their savings wiped out. Large numbers of claimants for unemployment, workers' compensation and disability benefits may put an enormous strain on existing systems.

An economic recovery plan should examine the adequacy of funds such as disaster aid, insurance, and low-interest personal and business bank loans. Depending upon the degree of risk, communities may wish to establish an emergency reserve fund that would be available to residents to supplement their own resources.

In conjunction with insurers and federal and provincial departments, plans must be made to deal with the surge of applications for financial relief following a disaster. If local reception centre locations and the need for phone lines and other

resources are established ahead of time, the community may be served much more efficiently. The emergency response plan sub-committee should explore means by which the municipal, provincial and federal governments could promote and stimulate private and public economic recovery following a disaster.

The recovery period is the start of a process of attempting to return to normal or to the way things were. It is a time of stabilization while long-term reconstruction plans can be finalized. The level of damage, the area affected and the probability of future risk will all determine the direction to be taken in the next phase.

8.3.7 Reconstruction and Renewal

Reconstruction and renewal planning begins during the recovery phase, and in the case of a catastrophic event, may take a lifetime or longer to reach completion. It can be a period of simply rebuilding what once was, or an opportunity for reflection and renewal; an opportunity to create a city or town that provides a higher quality of life than previously existed.

Emergency planners are just beginning to explore the issues that need to be addressed in a reconstruction plan. They include such issues as land use revisions, hazard mitigation, infrastructure development, preservation of historical sites, redevelopment projects, future development and public education.

Two key questions must be addressed.

Identification of Hazardous Sites. Hazard and risk analysis reports can assist in identifying areas of the community which are particularly subject to a high degree of risk. Some of these areas may be older, poorer sections of town while others may be newer, wealthier areas built on slopes or near a waterfront. Reconstruction planning should take into account these factors and should provide the basis for a contingency plan if these areas were devastated by a disaster. During the planning process, discussions surrounding this issue will assist in deciding whether or not residents or businesses would be encouraged to rebuild or relocate.

Community Planning Processes in Time of Renewal. Requests for development permits, changes to land use and by-law revisions usually require municipal councils to meet stringent procedures. There are often lengthy periods between initial proposals and final readings, public meetings and debates. While

necessary and useful in times of normal operations, following a major disaster they may be totally inadequate and inappropriate.

Also, following a disaster, people are often confused and under a great deal of stress. At such times, planners may make many decisions for the sake of expediency. The community may react very negatively to such planning tactics, needing to feel that they are part of the process and thus able to regain some control over their disrupted lives.

The reconstruction and renewal plan needs to examine the following questions and include strategies for dealing with them: What legislative and legal changes should be made so as to facilitate the planning process following a major disaster? How can redevelopment proposals be expedited without excluding public participation? How can communities start to develop contingency plans now instead of waiting until after a disaster?

9. The Community Education and Training Sub-Committee

9.1 Responsibilities

It is as important for the community at large to be educated and trained as it is for participants with specific responsibilities in the emergency response plan. This sub-committee is responsible for ensuring that the necessary training and resources are made available to, and used by, the community.

9.2 Membership

Members of this sub-committee may include:

- an adult educator, (training in distance education would be beneficial);
- a member of the local school board;
- a member of the News Broadcasters Association;
- a member of the press association;
- a representative from the Police Community Safety Program;
- a representative from a local cable company;
- a representative of the fire department;
- a citizen from a Neighbourhood Watch or similar organization;
- a local politician; and
- a member of a local first-aid organization.

This sub-committee must work very closely with the members of all of the other committees and should focus its training and education efforts on three main groups: first line responders; secondary responders; and the community as a whole.

9.3 Planning Requirements

9.3.1 First Responders

First responders must be made aware of the plan and their role and responsibilities within it. During a disaster, many first responders appear to perform the same tasks that they do each day, but this rarely is the case. Many will perform duties they have never encountered before, and regardless of the task, the emotional impact will be considerable.

First responders must be educated about the differences between crises and disasters, and then about existing hazards and risks in their community. The necessity of having an emergency response plan must be stressed and understood. The commitment to understand the emergency response plan and the individual's responsibilities contained in the plan is strengthened by awareness of the necessity for such a plan.

Awareness of the exercise plan will also maintain understanding and interest in the planning process and the procedures to be followed. It is crucial that all persons expected to perform specific tasks during a disaster, not just the supervisory or administrative personnel, be aware of the plan. It is also important to ensure that the families of first responders are educated about the potential hazards and how to be prepared. This will help the first responder when providing rescue services to feel confident that his/her family is as prepared as possible, and alleviate feelings of guilt about not being able to be with them.

9.3.2 Secondary Responders

Whereas the involvement of first responders is usually of short duration, secondary responders can be employed throughout the rescue and into the recovery phase. Many are volunteers and will be expected to perform tasks they would never undertake except in the case of a disaster. Specialists such as critical stress debriefing teams, even though trained in a particular discipline, will be also be performing unfamiliar functions, and in unfamiliar settings.

Problems of maintaining volunteer participation and individual competency are much greater than the problems encountered by first response agencies. The education and training sub-committee will have to ensure that the basic training programs developed also stimulate interest and enthusiasm.

derstand the role of the other, and the need for both services to be provided. Secondary responders may also need training in communication skills and stress management.

9.3.3 The Community

Responders will be unable to meet all the needs of the community during a disaster, and it is critical that the education and training sub-committee also concern itself with the community. Developing community awareness is the first step towards education. Citizen participation at the planning committee level begins to establish the links with grass-roots organizations and residential neighbourhoods. The main problems facing the sub-committee are: how to expand citizen participation, and increase awareness and advocacy for greater political responsibility and allocation of resources; and, establishing community self-sufficiency.

The sub-committee must work closely with the hazards and risks sub-committee. The principles involved in informing the first and secondary responders are the same. Informing the community, however, has an added dimension. The community, like the responders, needs to be aware of potential hazards so as to best prepare itself and its homes should a disaster occur. However, the community is also in an excellent position to lobby for the reduction of hazards. Educational programs need to motivate citizens to take responsibility for their environment.

Community preparedness -- achieved through an understanding of warning systems, the steps to take during impact (for example earthquake drills), first-aid and CPR training, and general survival skills -- will reduce the demands on rescuers and increase survival rates. The sub-committee needs to ensure maximum exposure of all ages to survival and rescue training, from pre-schoolers through to seniors, and to such diverse groups as individual osses than ordinary citizens. Special training is necessary for seniors and physically or mentally handicapped persons. As well, children have particular needs depending upon their age and stage of development, and these factors need to be understood by parents and other professionals prior to a disaster taking place. The language and cultural needs of ethnic groups also require special consideration.

An educated community, aware of potential hazards and versed in self-survival skills, is in a position to anticipate the consequences of existing threats and to advocate for the mitigation of potential impacts of the hazards.

Finally, the community must learn to improve its response to a disaster by participating in exercises. Not only will this assist the first responders in developing a more efficient plan, but people will increase their own ability to survive.

10. The Emergency Exercise Plan Sub-Committee

10.1 Responsibilities

This sub-committee designs and executes an exercise that is a test of the actual emergency response plan and the training plan. The main purpose of the exercise is to uncover weaknesses and provide constructive criticism while supporting the process and rewarding positive activity. Persons should not be included in an exercise until they are familiar with the emergency response plan and have been trained to respond to it. There is no purpose in having the untrained in a surprise exercise, since all that will be accomplished is to ensure that no-one will want to participate next time round!

Another purpose of exercises is to maintain interest and awareness. It is difficult, especially when dealing with volunteers, to keep people interested in planninghen they never happen. Exercises are an excellent way to make sure that participants remain interested and trained without experiencing the horror of a real situation.

10.2 Membership

It is important that the members of the sub-committee who are designing the means by which to evaluate the response plan should be different from those who have written the plan. By having different individuals design the exercise, some new or additional problems may be generated that were not initially addressed.

Members should include organizations represented in the emergency response plan sub-committee. Experts in particular fields can be brought in as consultants for specific incidents.

10.3 Planning Requirements

10.3.1 Fan-Out Exercises

Once persons have been recruited and while their training is being established, a fan-out plan should be developed. A good first step for the exercise committee is to arrange for a fan-out exercise, the goal of which is to establish communication with response agencies and their participants. The first exercise may only involve obtaining phone contact with the members of the EOC and their deputies. The subsequent exercise can involve the next level of staffing, such as supervisors. Eventually, a fan-out exercise can test for contact with all participants required in case of a major disaster.

Exercises can be planned for different times of day and different times of the year. They can be expanded from telephone contact only, to include arrival at designated meeting places. These exercises provide a good way for people to meet each other, identify communication gaps, check for correct address/telephone information, and maintain interest and awareness.

10.3.2 Table-Top Exercises

A table-top exercise usually involves presenting a simulated disaster situation to a number of persons who then sit around a table and make decisions to resolve the problem. These exercises are useful at the EOC or ESM level, since they enable those in command positions to work with others with similar command responsibilities, and review the impact of top level decisions on their own and other response areas.

Table-top exercises also help to bring a sense of reality into the planning process, a test of the way in which roles and responsibilities have been allocated. They are a good means of evaluating the gaps in the response plan. It is important to present realistic scenarios and increase the level of difficulty of response over time. Meetings with the hazards and risk committee will be necessary to ensure that the exercises test responses to existing community hazards. They also provide a good forum for the interaction of inter-agency emergency response personnel.

While these types of exercises are generally used for response situations, they can also be adapted to be used as a forum for planning. A scenario can be described and presented to the group, and once the general situation is understood, specific problems can be posed and discussed.

10.3.3 Minor Exercises

Minor exercises involve the actual physical acting-out of a simulated disaster by one or two agencies, or are regarding one specific target area. For example, an ambulance service may wish to test its response to a bus crash involving a number of injured, and the subsequent transportation of these simulated casualties to a local hospital. Although they may wish to involve a few police officers to assist in traffic control, the main object is to test the ambulance response: did the dispatching procedures work, was triage organized, were the ambulances able to leave the site in an efficient manner, were the hospitals notified of the number of injured, and so forth.

A minor exercise may involve several agencies but focus on one particular topic. Inter-agency communications during a disaster may be one area which warrants a specific exercise. Agencies may wish to choose a disaster site and then exercise their ability to set up communication links between the EOC and the site, between the various first responders, and between the first and secondary response agencies.

Minor exercises are a good way of testing an individual plan and building intra-agency co-operation and awareness. Unfortunately all too many exercise plans never move past this point because of the expense and time required to involve all of the necessary agencies in an exercise. But it is only through a major exercise that the gaps in service delivery become evident, and that first line responders get an opportunity to work together.

10.3.4 Major Exercises

Major exercises are an extremely important part of emergency planning and should be conducted when all parties are trained. They can also serve as a lever to bring lagging agencies on board. Conducting a major exercise involves a tremendous amount of planning. It is important to ensure that: all the plans are tested in a realistic fashion; the safety of all participants is maintained; and a thorough evaluation is conducted.

The results of the evaluation should be directed to the other sub-committees so that their specific plans can be altered to overcome the identified problems. It is important that the evaluation be produced in such a fashion that positive results are commended and areas to be developed are presented in a constructive, not critical, fashion.

11. Conclusion

This handbook provides a model for a community-based process of planning for potential emergencies or disasters. It shows how the primary roles of the emergency planner are to act as a *catalyst* in the community to bring together a wide variety of community representatives and, to *coordinate* the planning process through a network of committees formed to address each aspect of emergency preparedness. Good luck as you embark on this complex and extremely worthwhile process.

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